Medica 2018: Relax playfully with the anti-stress app of TU Kaiserslautern

Whether at work or at leisure - more and more people are feeling stressed. This makes it all the more important to learn to consciously relax in order to get stress under control. The app “Stress-Mentor”, which was developed by a team of researchers from Kaiserslautern, helps to solve this problem: Users can playfully incorporate various methods of relaxation such as meditation into their daily routine. The app was further developed into a "pain mentor" for pain patients. At the Medica medical technology trade fair in Düsseldorf from 12 to 15 November, the researchers will present their project at the research stand (hall 7a, stand B06) of Rhineland-Palatinate.

Sleep disorders, exhaustion, back pain - all of these symptoms can be signs of stress. In the long term, this is harmful to health. Although there are many relaxation methods such as yoga, meditation or muscle relaxation exercises, most people take little time for them in everyday life.

Dr Corinna Faust-Christmann from the wearHEALTH junior research group at the Technische Universität Kaiserslautern (TUK) and her team have developed an app that reminds users to relax every day. “We offer a series of exercises,” says the psychologist. “These exercises last between five and 45 minutes. They can be individually integrated into daily routine.” These include meditation, movement and stretching exercises. The app “Stress-Mentor” is designed to playfully increase motivation. In this context, experts speak of “gamification.” “We have a little birdlike mythical creature in our app, the Rhineland-Palatinate Elwetritsch.” The user has to look after the animal by carrying out at least one exercise every day,” continues Faust-Christmann. “Up to three exercises a day are possible.”

In addition, the app contains a diary to better observe stress in day-to-day life. “Using scales, the user can quickly assess how stressful the day was or the positive experiences they made. It takes about a minute to record such information,” says the researcher.

This health app is not intended for long-term use. “It is active for about three months, depending on how regularly it is used,” continues Faust-Christmann. “It’s meant to teach you how to deal with stress more consciously.” The exercises should simply be integrated into everyday life after that time. Stress-Mentor is to be launched on the market free of charge for Android devices at the end of next year.

The program of the Kaiserslautern research team is not only interesting for stress management, but also for pain patients. Faust-Christmann’s team is working on this project together with Dr Katja Regenspurger from the University Hospital in Halle. In addition, more functions will be added to the app. If a pain attack occurs, it should help, for example, to plan the further course of the day more easily in order to get help. “We would also like to offer a diary in which pain days or parameters such as pain intensity can be recorded,” says Faust-Christmann.

The app “Pain-Mentor” could, for example, be used as an aid for multimodal pain therapy. At the Medica, the team will present the technology.
The Kaiserslautern junior research group wearHEALTH is an interdisciplinary team from the fields of computer science, mathematics, psychology, cognitive science, motion science and control engineering. They develop digital techniques that are intended to improve health preventively or, for example, in the form of rehabilitation measures. The team is funded by the Federal Ministry of Education and Research as part of the “Interdisciplinary Competence Building in the Research Focus Human-Technology Interaction for Demographic Change” measure.

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